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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/720,485      | 11/25/2003  | Robert Weger         | BOE01 040           | 4361             |

7590 03/08/2006

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| EXAMINER |
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NGUYEN, TUYEN T

|          |              |
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| ART UNIT | PAPER NUMBER |
|----------|--------------|

2832

DATE MAILED: 03/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/720,485

Applicant(s)

WEGER, ROBERT

Examiner

TUYEN T. NGUYEN

Art Unit

2832

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4,6 and 8-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,6 and 8-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/17/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 6, 8-9 and 13-15 are rejected under 35 U.S.C. 102(b) as being anticipated by

Darling [US 2,963,639].

Darling discloses a coil arrangement [figure 2A] comprising:

- a first toroidal core [54];
- a second toroidal core [56], wherein the toroidal cores arranged next to each other in such a way that their axes of symmetry are in line;
- a first working coil [58] wound about the first toroidal core;
- a second working coil [60] wound about the second toroidal core, wherein the first and second coils each wound on its respective toroidal core only and connected in series; and
- a control coil [36] wound about the circumference of the two toroidal cores.

wherein the working coils wound about the respective core in a single layer and the working the control coils are evenly distributed around the toroidal cores [column 2, lines 35-40].

Regarding claims 6 and 8, Darling inherently discloses the two toroidal cores having identical dimensions, the working coils having essentially the same number of turns and identical wire thicknesses and the working coils formed from a singled insulated wire.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Darling in view of Schafer [US 2004/0140879 A1].

Darling discloses the instant claimed invention except for the toroidal cores arranged in a common plane.

Schafer discloses a toroidal transformer comprising two toroidal cores [1, 2] arranged in a common plane.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to arrange the toroidal cores of Darling in a common plane, as suggested by Schafer, for the purpose of reducing height.

Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Darling in view of Conway [US 5,012,125].

Darling discloses the instant claimed invention except for the specific type of wires for the windings.

Conway discloses a toroidal transformer [figure 7] comprising a toroidal core [121] and at least one winding [131, 132] wound about the toroidal core, wherein the winding formed of litz wire.

It would have been obvious to one having ordinary skilled in the art at the time the invention was made to use litz wire for the winding of Darling, as suggested by Conway, for the purpose of providing shielding.

The specific arrangement of the winding, connections of the windings, thickness of the wire of the windings would have been an obvious design consideration based on the intended applications/environment used and for the purpose of control the inductance.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-4, 6 and 8-15 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- US 6,211,749; US 3,781,639; US 3,351,860 and US 2,994,816.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TUYEN T. NGUYEN whose telephone number is 571-272-1996. The examiner can normally be reached on M-F 8:30-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ELVIN ENAD can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTN *FTN*

*Taylor Nguyen*